

Cyclin D2 promoter, (SEQ ID NO:105) MSP primers
 Accn. No. U47284 Promoter region analyzed: -1616 to -1394 bp

1 gagctCGagc caCGccatgc cCGctgcaCG tgccagcttg CGcagcacat cagggCGctg
 61 gtctctcccc ttctctctgg agtgaataac accaaagggC GCGgtggggg tgggggtga
 121 CGggaggaag gaggtgaaga aaCGccacca gatCGtatct cctgtaaaga cagccttgac
 181 tcaaggatgc GttagagcaC Gtgtcagggc CGacCGtgct ggCGgacttc alcCGcagtCG
 241 gctccccaggg agaaagcctg gcagagtgcg gCGCGaaacC GgaggtCGg CGaggtgCG
 301 ggCGaaaggac CGagCGtgga ggcctcatgc ctCGgggaa aggaaggggt ggtggtgtt
 361 gCGcaggggg agCGaggggg agcCGgacct aatccctcac tCGccccctc cccctccCGg
 421 gccatttctt agaaagctgc atCGgtgtgg ccaCGctcag CGcagacacc tCGggCGgct
 481 tgtcagcaga tgcaggggCG aggaagCGgg ttttctctgC GtggcCGctg ggCGggggaa
 541 cCGctgggag ccctgccccC GgctgCGgC Ggccccagac GctgcacCGC GtCGccccac
 601 gggccccCGaa gagccccag aaacaCGatg gtttctgctC Gaggatcaca ttctatccct
 661 ccagagaagc accccccctc ctctctaata cccacctctc cctccctctt ctctctctgc
 721 acacactctg cagggggggg cagaagggac Gttgttctgg tccctttaat CGgggctttc
 781 gaaacagctt CGaagtatc aggaacacag acttcagggg catgaccttt atctctgggt
 841 atgCGagggt gctattttct aaaatcaccc cctcccttat ttttcactta agggacctat
 901 ttctaaattg tctgaggtca ccccatcttc agataatcta cctacattc ctggatctta
 961 aatacaaggg caggaggatt aggatcCGtt ttgaagaagc caaagtggg gggcCGtatt
 1021 ttggCGtgct acacctacag aatgagtga aatagagggc agaaatagga gtCGgtagtt
 1081 ttttgtgggt tgcctgtcCG gggccccctgg catgcaggct ggatggagg agaggggtgg
 1141 ggggtggCGg gggacCGGt ttgaagtgg gtCGggccag ctgctgttct ccttaataac
 1201 gagaggggaa aaggaggag gagggagag attgaaagga ggaggggagg acCGggaggg
 1261 gaggaaggg gaggaggaac cagagCGggg aggCGCGggg agagggagga gagctaactg
 1321 ccagccagc ttgCGtcacC GcttcagagC GgagaagagC Gaggagggga gagCGagacc
 1381 agttttaagg ggaggacCGg tgCGagtgag gcagcccCGa ggtctgctC Gccccacc
 1441 caatcctCGc ctccctctg ctccaccttc tctctctgct ctcacctctc cccCGaaaaac
 1501 cccctattta gccaaaggaa ggaggtcagg ggaaCGctct cccctccct tccaaaaaac
 1561 aaaaacagaa aaacctttt ccaggcCGgg gaaagcagga gggagagggg cCGcCGggct
 1621 ggcdatggag

FIG. 1A

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MSP Unmethylated 223 BP

GT TATGTTATGT TTGTTGTATG

Forward UM 22 BP MT 56 (SEQ ID NO:21)

T AAAATCCACC AACACAATCA

Reverse UM 21 BP MT 56 (SEQ ID NO:22)

MSP Methylated 276 BP

TAC GTGTTAGGGT CGATCG

F M 19 BP MT 58 (SEQ ID NO:23)

CGA AATATCTACG CTAAACG

R M 20 BP MT 56 (SEQ ID NO:24)

MSP External primers 287 BP

TATTT TTGTGAAAGA TAGTTTGAT

EXT.F (SEQ ID NO:129)

TACAACTTTCTAAAAATAACCC

EXT.R (SEQ ID NO:130)

FIG. 1B

FIG. 2A

Twist Promoter: Accn No. AC003986 (SEQ ID NO:106)
Promoter Region analyzed: nts -51145 TO -51750

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1 cattggactg ggtttccttc cacCGaagag tgaacttctg cctcttttCGa gcaccttcCG
61 aggCGtagtc ctttgatgt tggggagCGt cagactgggt CGttgtagag gggaaaggag
121 gggccagaag ggCGagagag caggcCGgga CGcaaatcct cagccccCGC GgCGCGccac
181 Gtcttcagaa aCGccaggac ctCGggctg ggcCGcCGCG gtttggcctt tggaactcaa
241 gggttCGtct acctgacct tgggtggctc CGCGgttgac acttttcttg gcatgcccc
301 ccacccCGCG ccacaccacc ccccagccc cagcaatcca aatCGgcccc aCGgacctag
361 agggctcttg ggCGagatga gacatcacc actgtgtaga agctgttgcc atgtgtgctg
421 tcacagccac tCGgatggg gctgccacCG tggccaggac agtctcttcG GacCGcttcc
481 tgggctgCGc tagggttCGg gggCGctgccc CGcaCGctcG GgCGgggaaag gaaatCGccc
541 CGCGccCGcC GgaggaaggC GaCGgggagg gaaggggag CGgggctagg aggCGggtgg
601 aggggcCGgc CGccCGggcc aggtCGtttG tgaatggttt gggaggacCGa attgttagac
661 ccCGaggaag ggaggtggga CGggggaggg ggactggaaa GgGgaaactt tcctataaaa
721 ctCGaaaaag tccctcctcc tcaCGtcagg ccaatgacac tgctgcccc aaactttcCG
781 cctgcaCGga ggtataagag cctccaaagtc tgcagctctC Gccdaacttcc cagacacctc
841 GCGggctctg cagcacCGgc acCGtttcca ggaggcctgg CGgggtgtgC GtccagcCGt
901 tgggCGcttt ctttttggga cctCGgggcc atccacacCG tccccctccc ctccCGcctc
961 cctcccCGcc tccccCGCG GccctcccCG CGgaggtccc tccCGtcCGt cctcctgctc
1021 tctcctcCGC gggcCGcatC GccCGgggcCG gCGcCGcCGc caCGCGtCGc CGctCGagag
1081 aggCGccccCG ctcttctcct ctgccccCGgg ccCGCGaggc aCGacagcct gagcaacagc
1141 atgtagcagg aCGtgtccag ctCGccagtc tCGcCGgcCG agCGgcaagC GCGggggaCG caagCGgCGc
1201 gaggaagagc cagacCGgca gcagcCGcCG gcgcccCGgCG gagCGgtgg gggCGtCGga
1261 aCGagcaggC GcaCGgCGgg CGgCGgCGCG ccCGgcccag ggcaaCGCGg gaaagaagtc tgCGgggctgt
1321 ggCGgCGaCG agcCGgggag ccCGgcccag CGgCGgCGg Ggcagcagca gCGcCGgCGg gagtCGcag
1381 ggCGgCGgCG gCGgCGCGgg CGgCGgCGg GcagCGgggtc atggccaaCG tgCGgggagCG ccagCGcaac
1441 tcttaCGagg agctgcagac GcagCGgggtc atggccaaCG tgCGgggagCG ccagCGcaac
1501 cagtCGctga aCGaggCGtt CGcCGCGctg CGgaagatca tccccCGct gccctCGgac

1561 aagctgagca agattcagac cctcaagctg gCGgccaggc acatCGactt cctctaccag
1621 gtctctccaga GCGaCGagct ggactccaaag atggcaagct gcagctatgt ggctcaCGag
1681 CGgctcagct aCGccttctC Ggtctggagg atggaggggg cctggtccat gtcCGCGtcc
1741 cactagcagg CGgagcccc caccctcctca gcagggcCGg agacctaggt aaggacCGCG

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FIG. 2B

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Unmethylated 193 BP
tt TGGatggggt tggtatTGT FUM (3) 21 BP AT 58 (SEQ ID NO:109)
c ctaaccCAaa CAacCAaacc RUM (3) 20 BP AT 60 (SEQ ID NO:110)

Methylated 200 BP
t ttCGgatggg gttgttatC FM (5) 20 BP AT 58 SEQ ID NO:107)
aaaCGac ctaaccCGaa CG RM (4) 19 BP AT 58 (SEQ ID NO:108)

External primers 371 BP
Gagatgagatattattatttggtg EXT F (SEQ ID NO:131)
aacaacaatatcattaacctaac EXT R (SEQ ID NO:132)

FIG. 2C

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RAR beta promoter, MSP primers ACCN NO. AF157483 (SEQ ID NO:91)

Promoter region analyzed: nt -196 to nt -357

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1 gtgacagaag tagtaggaag tgagctgttc agaggcagga ggggtctattc tttgccaaaag
61 gggggaccag aattccccat gCGagctgtt tgaGGactgg gatgcCGaga aCGCGagCGa
121 tcCGagclagg gtttgtctgg gcacCGtCGg ggtaggatcC GgaaCGcatt CGgaaggcct
181 tttgcaagca tttacttggaggagaactt gggatctttc tgggaacccc cCGccccCGgc
241 tggattggcC Gagcaagcct ggaaaatgca attgaaacac agagcaccag ctctgaggaa
301 ctCGtcccaa gccccccatc tccacttcct cccctCGag tgtacaaaacc ctgcttCGtc
361 tgccaggaca aatcatcagg gtaccactat ggggtcagCG cctgtgaggg atgtaaggcc
421 tttttcCGca gaagtattca gaagaat[atg] atttacactt gtcacCGaga taagaactgt
481 gttattaata aagtcaccag gaatCGatgc caatactgtC Gactccagaa gtgctttgaa
541 gtgggaatgt ccaaagaatc tgtcaggaat gacaggaaca agaaaaagaa ggagacttCG
601 aagcaagaat gcacagagag ctatgaaatg acagctgagt tggacGatct cacagagaag
661 atcCGaaaaag ctcaccagga aactttccct tcaactctgcc agctgggtaa atacaccaCG
721 aattccagtg ctgaccatCG agtcCGactg gacctgggcc tctgggacaa attcagtgaa
781 ctgggccacca agtgcattat taagatCGtg gagtttgcta aaCGtctgcc tggtttcaact
841 ggcttgacca tCGcagacca aattaccctg ctgaaggcCG cctgcctgga catcctgatt
901 cttagaattt gcaccaggta taccaccagaa caagacacca tgactttctc agaCGgcctt
961 accctaaatC Gaactcagat gcacaatgct ggatttggtc ctctgactga ccttggtgttc
1021 accttgcca accagctcct gcctttggaa atggatgaca cagaaacagg ccttctcagt
1081 gccatctgct taatctgtgg agacCGccag gaccttgagg aacCGacaaa agtagataag
1141 ctacaagaac cattgctgga agcactaaaa atttatatca gaaaaagaCG acccagcaag
1201 cctcacatgt ttccaaagat cttaatgaaa atcacagatc tcCGtagcat cagtgtataa
1261 ggtgcagagC Gtgaattac cttgaaaatg gaaattcctg gatcaatgcc acctctcatt
1321 caagaaatgc tggagaattc tgaaggacat gaaccttga ccccaagttc aagtgggaac
1381 acagcagagc acagtccctag catctcacc agctcagtg aaacacagtg ggtcagtcag
1441 tcaccactCG tgcaataaga ca

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FIG. 3A

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Unmethylated 163 BP
ggattgg gatgt TGaga aTGT FUM 21 BP AT 60 (SEQ ID NO:92)
C Aaccaatcca acCAaaaaCAa RUM 21 BP AT 60 (SEQ ID NO:93)
Methylated 142 BP
ga aCGCGagCGa ttCGagt FM(2) 19 BP AT 60 (SEQ ID NO:135)
Gaccaatcca acCGaaaaCG RM(2) 19 BP AT 58 (SEQ ID NO:136)
External primers 266 BP
gtaggagggtttattt ttgtgt EXT (2) F (SEQ ID NO:133)
aattacattttccaaacttactc EXT 4 (2) (SEQ ID NO:134)

FIG. 3B

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Homo sapiens serine protease-like protease (nes1) mRNA, complete cds
 (SEQ ID NO:94) ACCESSION AF024605

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1 accagcggca gaccacaggc agggcagagg cacgtctggg tccctccct ccttcctatc
61 ggcgactccc agatcctggc catgagagct ccgcacctcc acctctccgc cgctctggc
121 gcccgggctc tggcgaagct gctgccgctg ctgatggcg aactctgggc cgcagaggcg
181 gcgctgctcc cccaaaacga cacgcgcttg gaccccgagg cctatggcg cccgtgcgcg
241 cgcgggctcg agccctggca ggtctcgctc ttcaacggcc tctcgttcca ctgcgcgggt
301 gtccctggtg accagagttg ggtgctgacg gccgcgcact gcgaaaacaa gccactgtgg
361 gctcgagtag gggatgatca cctgctgctt cttcagggcg agcagctccg ccggacgact
421 cgctctgttg tccatcccaa gtaccaccag ggctcaggcc ccactcctgc aaggcgaacg
481 gatgagcacg atctcatgtt gctaaagctg gccaggcccg tagtgccggg gccccgcgtc
541 cgggcccctgc agcttcccta ccgctgtgct cagcccgagg accagtgcga ggttgcctggc
601 tggggcacca cggccgcccg gagagtgaag tacaacaagg gcctgacctg ctccagcatc
661 actatcctga gccctaaaga gtgtgaggtc ttctaccctg gcgtgggtcac caacaacatg
721 atatgtgctg gactggaccg gggccaggac ccttgccaga gtgactctgg agggcccttg
781 gtctgtgacg agaccctcca aggcatacct tcgtgggggtg ttaccctctg tggctctgcc
841 cagcatccag ctgtctacac ccagatctgc aaatacatgt cctggatcaa taaagtcata
901 cgctccaact gatccagatg ctacgctcca gctgatccag atgttatgct cctgctgac
961 cagatgcccc gaggtcccat cgtccatact ctctctcccc agtcgggtga actctcccc
1021 tgtctgcact gttcaaacct ctgccgccct ccacacctct aaacatctcc cctctcacct
1081 cattccccca cctatcccca ttctctgctt gtactgaagc tgaatgcag gaagtgggtg
1141 caaaggttta ttccagagaa gccagggaagc cggtcatac cagcctctg agagcagtta
1201 ctgggggtcac ccaacctgac ttccctctgc actccccgct gtgtgacttt gggcaagcca
1261 agtgcctctc ctgaacctca gtttctctcat ctgcaaaatg ggaacaatga cgtgcctacc
1321 tcttagacat gttgtgagga gactatgata taacatgtgt atgtaaatct tcatgtgatt
1381 gtcatgtaag gcttaacaca gtgggtgggtg agttctgact aaaggttacc tgttgcgtg
1441 aaaaaaaaaa aaaa

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FIG. 4A

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Sequence analyzed: nts +169 to +349
Exon 3 sequence (SEQ ID NO:95)

CCGcagaggC GgCGctgctc ccccaaaa**CG** aca**CGCG**ctt ggac**ccCGaa** **gcctatggCG cccCGGtgCGC GCGCGggtCG**
cagccctggc aggtct**CG**ct cttcaaa**CGgc** ctct**CG**ttcc actg**CGCG**gg tgcctgggtg gaccagagtt ggggtgctga**C GgcCGCGccac**
tgCGgaaaca a

FIG. 4B

Unmethylated 128 BP

tTGtagaggT GgTGttgttt

Nes1 FUM 20 BP AT 56 (SEQ ID NO:77)

CACACaat aaaaCAaaaa acCA

Nes1 RUM 22 BP AT 56 (SEQ ID NO:78)

Methylated 137 BP

ttCGaa gtttatggCG tttc

Nes 1 FM 20 BP AT 56 (SEQ ID NO:79)

t tatttcCGca ataCGCGac

Nes1 RM 20 BP AT 58 (SEQ ID NO:80)

FIG. 4C

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HOX A5 Promoter 3' to 5' AC004080 (SEQ ID NO:96)

16321 accaagagag actgggagag ggCGgagag aagagagggg ggacCGagag cCGCGtcccc
16381 gCGgtCGCGt ggatttagaa aaaggctggc ttaccatga cttatgtgca gcttgCGcat
16441 ccaggggtag atctggggtt gggCGggCGg CGcCGggctC GgctCGctct gCGcactCGc
16501 ctgctCGctg ctggcagggg CGtcctcctC GgctcCGgaC GcCGtgccaa cccctctct
16561 gctgctgatg tgggtgctgc CGgCGtCGgc CGaggCGcCG ctggagttgc ttagggagtt
16621 tttccCGcCG tgggtgctgt CGctgcCGgg CGaggggggc aCGgCGgagc agggcagCGg
16681 atCGggctga ggagagtGCG tggacGtggc CGgctggctg tacctgggct CGgCGggCGc
16741 CGCGctggCG ctggcagCGt agctgCGggC GCGctctcCG gagccaaagt ggcCGgagcc
16801 CGagCGgcCG aCGctgagat ccctgccatt gtagcCGtag cCGtacctgc CGgagtgcac
16861 gctCGcCGag tccctgaatt gctCGctcaC Ggaactatga tctccataat tatgcaactg
16921 gtagtcCGgg ccatttgat agCGacCGca aaatgagttt acaaaataag agctcatctg
16981 ttttttgata tgtgtgcttg atttgtggct CGCGgtCGtt tgtgCGtcta tagcaccctt
17041 gcacaaatta tgatgaatta tggaaatgac tgggacatgt acttggttcc ctctaCGta
17101 ggcaccccaa tatggggtac GacttCGaat caCGtgcttt tgtgtccag tCGtaaatcc
17161 tgcctgatga cctctagagg taaactCGtg cactaatagg ggagttgggt ggaggCGagg
17221 ggggtggCGC GCGCGccccCG ggCGCGtgcc CGcCGccagt tgcCGcCGtt cagcCGgact
17281 CGagCGccac cCGctggagg cagggtcat CGcccagctt cCGacCGggg gctgcaaggg
17341 cCGgggtCGa attgaggtta cagcccatTA tggcaaaatt attgcatttc cctCGcagtt
17401 ccattaggat gtaccaattg ttaggcCGtc agctgcCGat CGCGCGcccCG gCGaggatgc
17461 agaggattgg

FIG. 5A

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Complement- 5' to 3' Promoter region analyzed: nts -97 to nts -303

(SEQ ID NO:97)

ccaatcctct gcatcctCGc CGggCGCGCG atCGgcagct gaCGgcctaa caattggtac atcctaattgg aactgCGagg gaaatgcaat
 aattttgcca taatgggctg taacttcaat tCGaccccCGg cccttgacgc cdCGgtCGg aagctgggCG atgagccctg ccTccagCGg
 gtggCGctCG agtcCGgctg aaCGgCGgca actggCGGcc ggcaCGCGcc CGgggCGCGC GCGccacccc.cctCGcctcc acccaactcc
 cctattagtg caCGagttta cctctagagg tcatcaggcaggatttaCGa ctggacaaca aaagcaCGtg attCGaagtC Gtaccccata
 ttgggtgcctaCGtaggag ggaaccaagt acatgtcCCA gtcatttcca taattcatca taaattgtgc aagggtgcta tagaCGcaca
 aaCGacCGCG agccacaaat caagcacaca tatcaaaaaaacaatagct cttattttgt aaactcattt tgCGgtCGct atccaaatgg
 ccCGgactac cagttgcata attatggaga tcatagtccG GtgcCGgagc atgcactcCG gcaggtaCGg
 ctaCGgctac aatggcatgg atctcagCGt CGgcccGctCG ggctcCGgcc actttggtct CGgagagCGC gccCGcagct aCGctgccag
 CGccagCGCG gCGccCGcCG agcdCaggta cagccagcCG gcaCGtcca CGcactctcc tcagccCGat

FIG. 5B

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UnMethylated 213 BP
tTGgtTCg aagttgggTCg FUM 18 BP AT 56 (SEQ ID NO:71)
gtaTGtg attTGAagtT Gtat (SEQ ID NO:98)
aataC AacttCAaat caCAtac RUM 22 BP AT 56 (SEQ ID NO:72)
Methylated 183 BP
ttagCGg gtggCGttCG FM 18 BP AT 58 (SEQ ID NO:69)
taCGtg attCGaagtC Gtat (SEQ ID NO:99)
ataC GacttCGaat caCGta RM 20 BP AT 56 (SEQ ID NO:70)

FIG. 5C

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Sequencing 307 BP

atattgtta taatgggttg taat Hox A5 Seq. F 23 BP AT 56 (SEQ ID NO:73)

ggag ggaattaagt atatggtt (SEQ ID NO:100)

aacatat acttaattcc ctcc Hox A5 Seq.R 21 BP AT 56 (SEQ ID NO:74)

Expression 248 BP

tcattt tgcggtcgct atcc Hox Exp F 20 BP AT 60 (SEQ ID NO:75)

ccaggta cagccagccg gc (SEQ ID NO:101)

gc cggctggctg tacctg Hox Exp R 18 BP AT 62 (SEQ ID NO:76)

FIG. 5D

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Homo sapiens 14-3-3 sigma protein promoter and gene, complete cds.
 ACCESSION No. AF029081 (SEQ ID NO:102)

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1  ggatcccagc ctgccccctcc acttctctcc caagccaggt cccggcatgg gtgggttatg
61  ctcatgctgg caatacttga aacgggttta ttaatgctgg gtattttgca caattttata
121  gacctctttt ctacatagtc ttttttaaat ggaaggagaa aatgtcagcc acattactgt
181  ctgtgtagtg ccaggtgaag ggttatcaga agctggttg gttttaataa gtttattcca
241  agagaccttc tggctggaat gagtgaagt gtgtgtgcat gtgtgtgtgt gttcatgtgt
301  gccctgtatg aatgtggctg gctcccagat ccctgggct gccccctgcc ccatccccctt
361  tgagtatcag aagcactctg agccaagggg acagggggca cgtgcactgg tcacgagaaa
421  accctgggct ccactgggg ctcagcccag cctcctatct ttctttcttc tatggacttc
481  agacagccag tgtctgggga ctctgccact ctacccccag ccctaccac cagccccacg
541  gtgaggcttc cagctgggac ctgcccagac aggtgagcc tgggcgtggg ggtgggggtg
601  atggctctgg ggagcggctg ccatactaca agccacaccc cctcctctga gctctgaata
661  tgggacccag tgccaggagc tggaagacaa ggtgtttctg ccaaacggga cctccatcca
721  gagaaaagga agaaggtgca ggtggggcca agaggcaagt gaaggtggc ctgagctctgg
781  gccggaaact cagaggatgt ttctcctctg ctgggagctg tagtttctta tcaaaataga
841  tattgttcca ccataccccct ccttgggcct tcaagtgggc tgaagccttg gaaagtgaca
901  taggaagtcc ccagatcttg cccttctcac tccagaggct agtggtcaca gacagctggg
961  aatggcagcc acagagggtc cctctggaga aacagcttca cccagcctc agggccctgg
1021  gcatcactgc agtggccctg ggaggtgagg aagaagctgg ctagaggagg gggctcccac
1081  ctacctttta tttaagccag tattctttgt tcctgcttgt aataaaactt cagtttataa
1141  gagttgcttt gctttgggtt ggttttttgt tgcttttctt ttgctgaggg cccaactggg
1201  agccctctgt tctttcagac aaatttggtt ctttccctgg gagactgtga gaaggcaggc
1261  agcccagtga tctggctaca ttttccctca cctggctgga gctctgtccg ctggaggaag
1321  agcagagagg gctgcggctg agcccccatg ggcacgtgaa aagaggccat cctgtccccct
1381  ctttgtcccc tccaccttcc cctgcctcag gggcttgagg accccaaatt ctcttccccct
1441  actgccttcc cactccgata cccaatgagt gccagctaa gaaaatgttt gagacagtatg
1501  attccagttt gagagccgga gcttccctgg ctaccacctc caacctgggc accagggccc
1561  agccagacaa ctcataaacac tggccacctt ctctgggtatc tccctcaggga ggacacctgt

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FIG. 6A

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SEQ ID NO:102 CON'T)

FIG. 6B

1621 caggattttg ccattcctg cacagcctga ggggagctaa caggcctctt tgcagagggg
1681 tagctggtaa gaccgtttct tccctgtcgg ccagcactgc ccgctccctt ccacacacca
1741 tctcatctc atcgcatgcc tcgccaaccc catggagccc gtccatctgt ctggtgtgtg
1801 gtgcggtgtg tgtgctggtg gtggtagggg ctccagggac tcccgcgtaa gcagaaggat
1861 cggtatag ggcaaggcta aagcccagc ccatttgtg actgaggaag tacgttcgcg
1921 cagagcagct ctccagctgg aagaggaggt ggaggtgag gctggggaga ggatggcgaa
1981 cctgccctga ggtgcttggg tctgtgtcgg tgggtcctg gtatgcaggg gccaccggtc
2041 actaacactc ttatgtcctg gctttctgtc ccgctgagc tttctctcac ccgcccgttt
2101 tctctcctgc ttcattgcct gctgcctaag ccttgcccct tctctcggc agaggcaggt
2161 gctgtggcag cactctccc caccaccggg ccctgcagg ccgctccctt cctcccaggc
2221 ctgctaacc tctctcttct ccttcttctg tctcctgcg gggatctcca gtgtgtgcg
2281 gggcttaagg acctcctgag gaccgtgct cctgcccctt ccaggaaatgg cctgggggga
2341 gccaggcacc cggcaacctc acctgcctaa cctgtggccc atctgccacc atctgtgcct
2401 acagggtctg cccccagcc tgcctgctc gtgtgctctc taggacccca tagggggcag
2461 gggctggcct ctttgccca tccccgtcc atgccggcca gagtgtagaa agccataacg
2521 cagcagcca tcagcacaat aatgtgactc tacgtgata tgctccctt ctctccact
2581 gacttcccc tcccgattt gtgaggtgtc aagactagga atctggcctt agagcctgcc
2641 cctccacccc ctcatcag gcatagccat agtcaagccc agcaggtttc ctcaggagct
2701 gtctggggtg ttgatggtgg atgacgtgc tgaacaagt tgggtactgt tctaagcaca
2761 actggcttga tactgtccc acggcctgtc cacctcccac ccccaacctt ccaccagagt
2821 aggtaggatg tagggagggt gcgtgccgc tttgctctag gcactgaggg accaagctag
2881 ccgtgcacag cccatacac ttcaggggcg taaaggaaa agctgagcca aggaaaaatca
2941 gctgagccca gggctggggg ctgcttgtct gctatcctgt acctttttt ttttaacca
3001 aaataaagat tcccccttc ttgccatac attggctgtc tgggtggcgc ttactttgg
3061 ggcccaggga tggaccctgc agtgggcgtg tggaaacatat ggctccctt cgctcccagc
3121 ttcttccag ctggccagtgt ctgctctgga gattacaag cacaacgaag ccaggaggga
3181 cacaggaaaa gtggctgaca tcttttccac tctgcccctc cagaactctt ggtctcaatt
3241 ccagacacca ccagcctta gctgacctct ggattctgat aggtccagt gcaggctgag
3301 acagaggggt taactccagt ttgggactgc catacccatg aactgagccc agcccagggt
3361 aacgatctca tggaaacttc tctctccca gttgctgcac tacatcaaga tacacacatg
3421 tgcatacact gtactatggg ctaaaaaaat acgtaccgct accgttcagc aagggttgc

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(SEQ ID NO:102 CON'T)

FIG. 6C

3481 cgagtcccg gccatttcc tcattttaac ctgtgaggag gatgatgtca gcctttttac
3541 agatgagggg actgagactc aaggaagaaa caggagctgc ccaaggtcac ccagctggca
3601 aagcagcaaa tcccagatcg gaacctgac tctgccccga gctctgagcc atctgcacta
3661 cccaaggaat gaatacagcg gtgggaggat gagatcttgg agaaacccta aaattagaga
3721 atgtcatagc cagtagaggg cttagagttg atctgggcca gcctccttgt ttactgatg
3781 gagaaattga agcccagagg caggaagggg cctgccccag gccttataac agagctggga
3841 tgcagtccca cactctgacc tcattccatt ctctctccat aaattctgca ctgtctctag
3901 actggactgg tttagatgtg ggatactcta aacagcagtg ccttcaagag aaaaagaatc
3961 agaactacga atcacttaaa agtaattgtaa gctactctgg gcacactgcc tatggggtcg
4021 ccctgctcca caaggagcca caaaaataat taaaataatt taataatccct tcccaagggt
4081 aaccagtaaa gtaagctctt ggctaggtaa ctggactctt gttcacaaact agccagtggg
4141 aaaagggtct agagcttctt ctggccacct gtttaatttg atcattccaa gacagaaaca
4201 tttcttagga agttctttct agaacttacc tgggtgccct ccactgcta tcagagccct
4261 gtcctctgtc ctcagtgagg gtagagagca aatgggtgct gcttcttca tcacaaccct
4321 tcaaagccta ttattaccag ctaagaagga ttggttgact atgggccaga gcccctgagc
4381 ctgctggtag aatggatgct gtacaggagg gtggggagggt agcaggcaga atgaggaaaag
4441 cccctttgag ctgcaacccc agctcctgtc ctgctgactc agacagctga ctgtggagct
4501 ccatgccctg ccagggccctg ctgcctcctg cccgtctgag ctctgaact tgggaaatgg
4561 aggccccagag gcaaggagg gtacctgaga caggaactga gtcaggatca acaggccaga
4621 gcgggcagga ggtatcaggc agcctggctc ccagatgcac ccctgagctc cagcagggga
4681 ggagtaggaa tgaaggggct tccttgccct tgctcatggc tatgcggagg gcgtgaacca
4741 ccaccaggtc ctctggctta agtggcggga agcaaatggt ccctccctgg actcaggctc
4801 caaagtctct gggcctgcct tccaggctcc ccagtgcttg ggaatctccag ctttccccag
4861 gacttgggga agccccggct ggatgactag tacaatatgaa ggccccctgag gttccaggac
4921 ctgctgaggt cacaggaata tcctagatca agcttgtcca acccacggcc cacaggctgc
4981 atgtggccca gaatggcttt gaatgcagcc caacacaaat tagtaaaactt tcttaaaaca
5041 ttatgagatt tttttgcaaa tttttttttt ttttttagct catcagttat tggtagtgtt
5101 ggtatatatt atgtgtggcc caagacaatt ctccaatgt ggccccaggga agccaaaaga
5161 ttggacacgc ctgtcctaga tggagaggaa ggaggcagtg ctgagcacat ctggccattc

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(SEQ ID NO:102 CON'T)

FIG. 6D

5221 atccatctgg agagagaagg ctatgggcaa actgcttctt ctccccctgta gacacccagc
5281 tgggaagggtc tggcctttgg taagtccctgg cttgggggtcc ttccctcattt cacagaaacct
5341 aactctatgt tagtgctttg tgagtatatg ttgatcataa taaagttgac gggattttttt
5401 cacatgataa taatagttgt catctggccg ggcattgggtg cttatgccta taatttcagc
5461 actttggaag gctgaggcag gtggatcact tgaggtcagc tgttcgagac cagcctggcc
5521 aacatggtga accacatct ctacttaaaa aaaaaaaaaa taaaaaatt agctgggtgt
5581 ggtggtgcac cttgtaatc ccagctactc gggagggtga ggcaggagaa tcacttgaac
5641 ccaggagggtg gaggttgca gtagctgaga ttgtgccact acactccagc ctgggtgaca
5701 agagcgaac tccgtctcaa aaaaaagaa aataataata ataatagttg ccatccattc
5761 tactgtgctt tccattaaact cgtgtaatcc tcacaagtcc ctttttatag ttacaggaac
5821 tgaggctcac agagcttaaa tcacttgcc aaggccacaa acagctataa gaattacatt
5881 taggcagtct gattccaaa gattcgtatc attctgtatc tcatagacaa acaatacata
5941 ttcaactttt ttgtgttgtt ttgttttgag acggagtctt gctctgtcac ccaggctgga
6001 gtgcagtggc gccatctcgg ctcaactgcaa cgtccgcctc ccgggttcaa gcgattctcc
6061 tgcctcagcc tcccgagttag ctgggactac aggcattgtg caccatgccc ggctaatttt
6121 ttgtattttt agtagagaca gggttttcct gggttagcca gaatgggtctc gatctcctga
6181 ccttgtgatc caccacctc agcctcccaa agtgcctgaga tgacaggcgt gagccaccgc
6241 gtccgacctt tattcactat ttataaattg gagagaataa gaaaatcaaa agggccagggt
6301 gtagtgactc acacctgtaa tcccagcact ttgggaagcc aaggcaggag gattgcttga
6361 acccagaagt tcgagaccag cctgggcaac atggtgagac cctgtctcta caaaaaatc
6421 aaaaattagc tgggcgttgt ggtgagcacc ttattcttag gaagctgagg caggaggatc
6481 acctgaggcc aaggagggtg agactgcagt gagctgtgat cataccactg tacttcagcc
6541 tggacatcag agtaagacc tatctctaaa aaggaattg agaagaaaaga aaatcaagg
6601 gaagcaaaat cactcactct cactacctca agataccctc tagaagttgg tattttagt
6661 tggttcctat tgttttctgt gtcagttctc tgatttgagc aaaatctttg ggacgtcaaa
6721 cttaaaatcc cctttacttc ctgggaaacc ctgtagcatt agcccagaca tgtccctact
6781 cctccttgtg gcaaaagaaa ggaatctcgtc ttgtgtcccc agagttcttg cctaagcctc
6841 cctccaggag ggaagatgag tgttcagaca ctgagtag ctgggggaga cacaggcctg
6901 tgaattatc ctgggtcaac tattaggtcg gcagaatccc agtgaaggga gccctacctc
6961 tgagcccat ctaagctttg gctatgggtg ggcagataa gcaggaatcc atccctatag

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FIG. 6E

(SEQ ID NO:102 CON'T)

7021 gctcaatgcc aacaccctta ggtgaaactc ttgatgaaac ttgaggccag ggctccggca
7081 agcagggaag aacggttggc aacagaggtc tccatctctg aggactctgc caggggtcag
7141 agatggggca atggtcaaaa ggaaggaaac ggcaggcac agtggctcat gcccataatc
7201 ccagcacttt gggaggctga ggcaggagga tcgcttgagc ccaggagttt gagacctgcc
7261 tgggcaatgt agtgagatct gctctctatt taataaaaaa aaaaaggaaa gaacaagtaa
7321 acttctgaga aacaggctgg gggaggcatc acgtagctgg aattgctgcc ccataaaaca
7381 gaatggtatg tgtcactgcc acctcccttt ctcagtcctc tctctcccca ggttgctagc
7441 gtccccctgg gggatcaaac tggactgctt ccagcctca gacagagagc agtctgagtc
7501 aggcaggaaa gtgggacagc cggggagctg gacccacccc tctgtgagcc ccgctggtac
7561 ctgatggcat gtggcttggg gagggcaggt gacctggcgt ggagggccag agggtaaatc
7621 ctcaaacaaag tggcaacagg ccaccaactt gaaagggaaa attgtgtagt gatgggaaat
7681 gtgtccaaca aacctactgg gtgactaatt acaaaggctg ggctggagct tcagaggctg
7741 cttgttaaac acttcattaa gcggcactct gaaagctgcc acctgcgcac tctgggagct
7801 cagaggggac cctgaggggg aatgaggcct ggaggatgga accatcttca ggtagactga
7861 gaaggagcct ggatctcact tccaaacaca gtctggagct cataggctcag aggcctcaat
7921 gggagaaaaag ctaaagggaag aggtgacaga aaggagtctt agggaattgg tggctatgtg
7981 actttgagca aatctcacc ctctctgaga cttagtgctt ccactctctat ggtcctgtgt
8041 gtgtcacaga gacatggtgg ggattaaatt cgatcgtgat atgaaagtgc ttgggaaact
8101 ccatggccct acctaaacat gagttatcct cacctgaacc aaggggggaa gttacctggc
8161 aggattagga acctcatcct cctgaacctt tatgggctct gtcgaggctg aagcagccag
8221 gggctaaagc cagtccttag cccctggaag ggcactgtga aagtggatct gatttgagaa
8281 gccgtttcct gatgtgggca gccatgtgat gccagccccg aacaagaggg ggcagcctgg
8341 agcctggaaa ggtgccagt gagggtgggg ccacgccccag atttctcctg ctgactgttc
8401 tgatgattca cccccacatc ccagcctttt tacctttact gcagagccgg aaaggggtgtg
8461 gggaagagag gagaggagg caggtcttgg gccctggtcc cgccccctgc tctccccac
8521 ccttctcttg gcctggccac ccagccaaaaa ggcaggccaa gagcaggaga gacacagagt
8581 ccggcattgg tcccaggcag cagttagccc gccgccccgc tgtgtgtccc cagagccatg
8641 gagagagcca gtctgatcca gaaggccaag ctggcagagc aggccgaacg ctatgaggac
8701 atggcagcct tcatgaaagg cgccgtggag aagggcgagg agctctcctg cgaagagcga

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FIG. 6F

SEQ ID NO:102 (CON'T)

8761 aacctgctct cagtagccta taagaacgtg gtgggcggcc agagggtgc ctggagggtg
8821 ctgtccagta ttgagcagaa aagcaacgag gagggctcgg aggagaaggg gcccaggtg
8881 cgtgagtacc gggagaaggt ggagactgag ctccaggcg tgtgcgacac cgtgctgggc
8941 ctgctggaca gccacctcat caaggaggcc ggggacgcc agagccgggt cttctacctg
9001 aagatgaagg gtgactacta ccgctacctg gccgaggtgg ccaccgggtga cgacaagaag
9061 cgcatactg actcagcccg gtcagcctac caggaggcca tggacatcag caagaaggag
9121 atgccgccc ccaaccccat ccgctgggc ctggccctga acttttccgt cttccactac
9181 gagatcgcca acagcccccga ggaggccatc tctctggcca agaccacttt cgacgaggcc
9241 atggctgac tgcaaccct cagcgaggac tcctacaaag acagcacctt catcatgcag
9301 ctgctgcgag acaacctgac actgtggac gccgacaacg ccggggaaga ggggggcgag
9361 gctccccagg agccccagag ctgagtgttg ccgcccaccg ccccgccctg cccctccag
9421 tccccacccc tgccgagagg actagtatgg ggtgggaggc cccacccttc tcccctaggc
9481 gctgttcttg ctccaaaggg ctccgtggag agggactggc agagctgagg ccacctgggg
9541 ctggggatcc cactcttctt gcagctgttg agcgaccta accactggtc atgccccac
9601 ccctgctctc cgcacccgct tcctcccag ccaggacca ggctacttct cccctcctc
9661 tgcctccctc ctgcccctgc tgctctgat cgtaggaatt gaggagtgtc cgccttgtg
9721 gctgagaaact ggacagtggc aggggctgga gatgggtgtg tgtgtgtgtg tgtgtgtgtg
9781 tgtgtgcgcg cgcgccagt caagaccgag actgaggga agcatgtctg ctgggtgtga
9841 ccatgtttcc tctcaataaa gttcccctgt gacactcctc ctgtctctct tccagttctt
9901 ggcgatgggc tgggagtggg actggaatct gacttagaga cctgactttt ggacctctga
9961 gttaggggcc tgaactccct aggtggctca gtggcccgcg cgcaagactt tgagtccagg
10021 tgaggccggg gtcc

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H.sapiens Wilms tumor (WT1) gene promoter. ACCESSION No. X74840
(SEQ ID NO:103)

```
1 agcttgccgc ccagcccg gccagccagg tacaggaggc cggactgcaa ccggttgctt
61 ccctcccgtc gcgctggcc gtcccacgct gcgccgtcgc tgctgctcc tggcgccctt
121 gggattttat acgacacctt gaaacacgct ccgctccggc ccccggttct tctccttgcc
181 taggggttgt ttcccaatag atactgactc ctttagaaga tccaaaaacc aaacaaaac
241 acccctacc cgccttacc acctgctctg gggcgcgggg gctgccaaac agagactaga
301 cgaaggaggt cagatttagc gaantcttcg agtcccaaa gattcgaaca ctaactcgcg
361 cccgtgggct gatggaggtt ctccctactc cactccttgg tccccctaac tggcttccgc
421 ctcttggtca atcactgagc aaccagaatg gtatcctcga ccaggggccac aggcagtgc
481 cggcgaggtg gctccaggag ttaccgcctc ctgcccggct tcgtatccaa accctccctt
541 tcacccctcc tccccaaact gggcgcccagg atgctccggc cggaatatat gcaggctttg
601 ggcgtttgcc caagggtttt ctccctctt aaactagccg ctgttttccc ggcttaaccg
661 tagaagaatt agataatcct cactggaaag ggaaactaag tgctgctgac tccaatttta
721 ggtaggcgcc aaccgcttcc gcctggcgca aacctcacca agtaaacaaac tactagccga
781 tcgaaatacg ccggcttat aactggtgca actcccgcc acccaactga gggacgttcg
841 ctttcagtcg cgacctctgg aaccacaaa gggccacctc tttcccaggt gaccccaaga
901 tcatggccac tcccctaccc gacagttcta gaagcaagag ccagactcaa gggtgcaaaag
961 caagggtata cgcttctttg aagcttgact gatttcttcc tgcgcttccc tgaagtccc
1021 gccctcttgg agcctacctg cccctccctc caaaccactc ttttagatta acaaccccat
1081 ctctactccc accgcattcg accctgcccg gactcactgc ttacctgaac ggactctcca
1141 gtgagacgag gctcccacac tggcgaaggc caagaagggg aggtgggggg aggtttgtgc
1201 cacaccggcc agctgagagc gcgtgttggg ttgaagagga ggggtgtctcc gagagggacg
1261 ctccctcgga cccgccctca cccagctgc gaggcgccc ccaaggagca gcgcgcgtg
1321 cctggccggg ctgggctgc tgagtgaatg gagcgccga gcctcctggc tctcctctt
1381 ccccgccgct cggccctc ttattgagc ttgggaagc tgagggcagc caggcagctg
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FIG. 7A

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(SEQ ID NO:103 CON'T)

1441 gggttaaggag ttcaaggcag cgcccacacc cgggggtctt ccgcaacccg accgcctgtc
1501 cgctccccc cttcccgcct tccctcccac ctactcattc acccaccac ccaccacagag
1561 ccgggacggc agcccaggcg cccgggcccc gcggtctcct cgcccgatc ctggacttcc
1621 tcttgctgca ggaccgggt tccacgtgtg tccggagcc ggcgtctcag cacacgctcc
1681 gctccgggccc tgggtgccta cagcagccag agcagcagg agtccgggac ccgggcggca
1741 tctggggccaa gtaggcgccc gccaggcca gcgctgaacg tctccaggcc cggaggagcc
1801 gcggggcgctc cgggtctgag cctcagcaaa tgggtccga cgtgcgggac ctgaacgcgc
1861 tgctgcccgc cgtcccctcc ctgggtggcg gcggcggtg tgcctgcct gtgagcggcg
1921 cggcgagtg ggcgcgggtg ctggactttg cggcccggtg cgcttcggct tacgggtcgt
1981 tgggcggccc cgcgcgcca ccggtccgc cgccacccc gccgcggcc cctcactcct
2041 tcatcaaaac gagccgagc tggggcggtg cgagccgca cgaggagcag tgcctgagcg
2101 ccttcaactgt ccacttttcc ggccagttca ctggcacagc cggagcctgt cgctacgggc
2161 ccttcgggtcc tcctccgccc agccaggcgt catccggcca ggccaggatg ttctcctaacg
2221 cgcctacct gccagctgc ctcgagagcc agcccgctat tcgcaatcag ggtaagtagg
2281 ccggggagcg cccta

FIG. 7B

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Estrogen Receptor (ER): Homo sapiens estrogen receptor beta gene, promoter region and
 Partial cds (SEQ ID NO:104) Accession Number AF191544

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1  actatagggc aCGCGtggtC GaCGgccCGg gctggtattg atagatgcat tttcttcacc
61  ctcacctatc tttttctgcc tggttgctta tggttgaaat tccttcatga CGgtttccat
121  ttccagagat atcttggtta caagtatata ccaccaaatg aagctgattt tttttttttt
181  ttttttttga gacagagtct CGctctgtCG cccaggctgg aatgcagtgg CGCGatcttg
241  gctcactgca acctcCGcct cccatgttca agCGattctc ctgcctcagc ctctcagta
301  gctgggatta ctggcatgtg ccacCGCGtc cagccaattt ttgtattttt agtagagaCG
361  aggtttcacc atgttggtca gctggtctc aaactcctga cctCGtgatc cacctgcctc
421  ggctctccaa agtgctgaga ttatagtggt gagccaccat gcctggccat gaagctgatt
481  ttttttaaacc atcatttaac attttctcca taagggtggca aggaggaaga gcatatgggg
541  actgggtact ttgagagacc ccaggacagg agacagggag gctgagattg gcatgtgtgc
601  tgctgcagtt atttgccagC Gacacactct ttcCGTccaa actaaactct ctgcctcaag
661  gacagggaga ctctgccttt caacctgaga gaaaccagga ctctcagctt taatgaaaaa
721  tggacttagg gtggggcagt ggagactttt cacagctatt gttagctga tgaagcagat
781  gcttctccat ctttggagcc tgtcttcatt acctgtggac ctcatcttta tcaaccaga
841  gcacacttgC Gctctctctat tttggctaaa caccaaacag ctgaggctgg tactgtaaaa
901  ctttccctcc aaatgcccc cctCGTcttc ctctattaga gatctggatc acaaccctca
961  aaaaccatgt cccttatgcc acctgagtag atggtttgat gattaattag gcacagatgt
1021  gacactgggg ggtctcaca atggcctgtg ggtcacatgc tactttcctt ttcattttca
1081  tcagcaacag ctgccttaaa gccagttaag actgtggtcc tagtctCGca ccctggggct
1141  cctgctgggg tgggtgaggg gaacacccca ttaagctggg ggaactgggg ctgccaccag
1201  ggggCGCGag gggccttCGc cCGagaagag ggttggggcag gtgcctccag CGgagaaggg
1261  CGcCGtggtC Ggaggcacag gtctcccCGg tgccacttca agtgagttCG aggaagtacc
1321  tgggatcttt gatctaaCGC Gaaaggcctt cccagtgacc tcttgagggc tgagaaccca
1381  ctccctccac ctctagtcca CGgctttgccc actccagggc CGaggttaC Gtttctgtct
1441  ggggatttga caaaccccaa gcctctctgg tttcaccact ggctccttag aatcagacat
1501  ctgttctgaa tgacacttat gtgagtcagg ggctgaggaC GtgatectCG aagtgtggtc
1561  ccagactgg ctgtatcagt gtCGgcaccc cccaggacct ggttggaagt gcataattctc
1621  aggcctact ccagacctct taaatctgag actgggggctg CGggggagCGc catctgtgCG
  
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FIG. 8A

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(SEQ ID NO:104 CON'T)

1681 ccactatcct tgtgggtgga ccaggagtCG gttCGaggggt gtcaccactt agaggtcaCG
1741 CGCGGCGtCG ggCGttcctg agacCGtCGg gctccctggc tCGgtcaCGt gggctcaggc
1801 actactccc tctaccctcc tctCGgtctt taaaagggaag aaggggctta tCGttaagtC
1861 Gcttgtgatc ttttcagttt ctccagctgc tggttttttg gacaccact ccccCGccag
1921 gaggcagttg caagCGCGga ggtgCGgaga aataactgcc tcttgaaact tgcagggCGa
1981 agagcaggCG gCGagCGctg ggcCGggggag ggaccaccCG agctgCGaCG ggctctg99g
2041 ctgCGgggca gggctgCGc cCGgagcctg agctgcagga ggtgCGctCG ctttctctcaa
2101 caggtgCGg CGgggCGCGC GcCGggagac ccccctaag gCGggaaaag caCGtgtcCG
2161 Clatttttagag aaggcaaggc CGgtgtgttt atctgcaagc cattatactt gccaCGaat
2221 ctttgagaac attataatga cttttgtgcc tttcttgca agtggttttc tcagctgtta
2281 tctcaagacia tgatataaa aaactcacca tctagcctta attctccttc ctctacaac
2341 tgcagtcaat ccattctacc cctggagcaC Ggtccatat acataccttc ctctatgta
2401 gacagccacc atgaatatcc agccatgaca tctatagcc ctgctgtgat gaattacagc
2461 attcccagca atgtcactaa cttggaaggt gggcc

FIG. 8B

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Unmethylated 288 BP

FUM 21 BP AT 60 (SEQ ID NO:85)

G ggTGtttttg agatTGtTGg

TG agttgTGaTG ggtttttg (SEQ ID NO:86)

RUM 20 BP AT 58 (SEQ ID NO:87)

ccaaaacc CATCaaact CA

Methylated 181 BP

FM 18 BP AT 60 (SEQ ID NO:88)

agagtaggCG gCGagCGt

CGggaaaag taCGtgttCG t (SEQ ID NO:89)

RM 20 BP AT 60 (SEQ ID NO:90)

a CGaacaCGta cttttcccCG

FIG. 8C

[illegible]

FIG. 9A

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HIN-1 SEQUENCING PRIMERS

Forward: 5'-AGGGAAGTttttttTtAtttGGtt 3', 23 bp, 56 (SEQ ID NO:111)

Reverse: 5'GTGGttttTGttttTGtATGtTttGGTG 3' (SEQ ID NO:112)

Reverse: 5'-CACCGAAACATACAAAAACAAACCAC 3' 60, 26 bp (SEQ ID NO:113)

HIN-1 External primers 209 BP (-213 to -39)

Forward (2): 5'-GTTTGTTAAGAGGAAGTTT- 3' (SEQ ID NO:114)

Reverse: 5'-CACCGAAACATACAAAAACAAACCAC- 3' (SEQ ID NO:115)

Primers for Methylated HIN-1:

Forward: 5'-GGTACGGGTTTTTTTACGGTTCGTC-3', 24 bp, 60 (SEQ ID NO:116)

Reverse: 5'-AACTTCTTATACCCGATCCTCG-3', 22 bp, 62 (SEQ ID NO:117)

Primers for Unmethylated HIN-1:

Forward: 5'-GGTATGGGTTTTTTTATGTTTGT-3', 24 bp, 62 (SEQ ID NO:118)

Reverse: 5'-CAAAACTTCTTATACCCCAATCCTCA-3', 25 bp, 68 (SEQ ID NO:119)

FIG. 9B

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Nucleotide sequence of RASSF1A promoter (SEQ ID NO:121)

17701 tcagcaaacGgaccaggag ggccagggcGgatgtggg accctcttc tctagcacag
 17761 taaagctggc ctccagaaac aCGggtatct cCGGtggtg ctttgCGgtC GcCGtCGttg
 17821 tggcCGtcCG gggtaggggtg tgaggagggg aGgaaggagg gaaggaaggg caaggCGggg
 17881 ggggctctgc GagagCGCGc ccagcccCGc cttCGggccc cacagtccct gcacccagggt
 17941 ttccattgCG CGgctctcct cagctccttc cCGCGcccc gtctggatcc tgggggaggCG
 18001 GctgaagtCG gggccCGccc tgtggcccCG ccCGgcccCGC GcttgctagC Gcccaagcc
 18061 agCGaagcaC GggcccaacC GggccatgtC Gggggagcct gagctcattg agctgCGggga
 18121 gctggcaccC GctgggCGCG ctgggaaggg cCGcaccCGg ctggagCGtg ccaaCGCGct
 18181 gCGcatCGCG CGgggcacCG CGtgcaacc cacaCGgcag ctggtccctg gcCGtggcca
 18241 cCGcttccag ccCGCGgggc cCGccaCGca caCGtggtgc Gacctctgtg gCGacttcat
 18301 ctggggCGtc GtgCGcaaaag gcctgcagtg CGCGCGtgag tagtggcccCGCGGcctaC
 18361 GagagCGgaa ggggcagcca aggggcagCG cagtCGcCGC GggtcaagtC CGGgcagagg
 18421 ggggtCGgCGg ggacagctcc CGaggactag gtcCGttact ttCGcccccat CGctgaagag
 18481 tgCGCGGaaaa tggtttatcc cttgtCGcac tccactCGta tctggggccac agatgagcag
 18541 aggtggctgc ttatatgtaa aaataccgctg attttaagtt tcttatcttt aaaatgcctt

FIG. 10A

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SEQUENCING PRIMERS FOR RASSF1A

External Primers 294 BP

gggagtttgagtttattgagt RASSF1 ext. F (SEQ ID NO:122)

acccttaactaccccttc RASSF1 ext. R (SEQ ID NO:123)

Internal MSP Methylated 160 BP

gttggtattc GttgggCGC RASSF1 FM (2) (SEQ ID NO:124)

GcaccacGtataCGtaacCG RASSF1 RM (SEQ ID NO:125)

Internal MSP Unmethylated 180 BP

ggtTGtattTGgttgagTC RASSF1 FUM (SEQ ID NO:127)

ctacaaacctttaCacaCAaCA RASSF1 RUM (SEQ ID NO:128)

FIG. 10B

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FIG. 11 Multiplex Methylation-Specific PCR

